REMARKS

Applicant respectfully requests the Examiner's consideration of the present application as amended. Applicant submits that this amendment responds to an argument or suggestion that was first presented in the Final Office Action date November 24, 2004. Applicant submits the amendment either implements the Examiner's suggestion with respect to rejected claims or otherwise overcomes the remaining outstanding rejections.

Applicant thus submits that there is a good and sufficient reason why this amendment is necessary, why this amendment was not earlier presented, and why this amendment should be admitted now. Applicant believes that consideration of this amendment could lead to favorable action that would remove one or more issues for appeal.

Summary of Office Action

Claims 1, 2, 4-12,and 14-20 are pending.

Claims 1, 2, 4-12, 14, and 17 were rejected under 35 U.S.C. § 112, second paragraph.

Claims 1, 2, 4-12, and 14-20 were rejected under 35 U.S.C. § 102 as being anticipated by "Token-Ring Architecture" of Cote ("Cote").

Claims 1, 2, 4-12, and 14-20 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,933,935 of Adams ("Adams").

Claims 9, 10, and 12 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent Application Publication No. 2002/0016875 of Yokoyama ("Yokoyama").

Claim 11 was rejected under 35 U.S.C. § 103 as being unpatentable over Yokoyama.

Claims 15-20 were rejected under 35 U.S.C. § 103 as being unpatentable of Yokoyama in view of applicant's "admitted prior art" ("APA").

Summary of Amendments

Claims 1, 5, 6, 7, 8, 9, 14, 15, 16, and 19 were amended. Claim 18 was canceled. Support for the amendments may be found, for example, at page 17, lines 21-page 19, line 14. Applicant submits that the amendments do not introduce new matter.

Response to 35 U.S.C. § 112 rejections

As stated above applicant has amended the claims. For example, "a received channel identifier" at lines 4-5 of claim 1 provides sufficient antecedent basis for "the received channel identifier" at lines 6-7 of claim 1, as amended. Antecedent basis for the "received channel identifier" at lines 1-2 of claim 7 is found at lines 4-5 of claim 1. Antecedent basis for "the remaining command sequence" at line 10-11 of claim 9 is found at line 4 of claim 9.

With respect to claim 17, applicant notes that the claim is drawn to a *plurality* of devices and that *each* device modifies a first channel identifier to generate a second channel identifier. Thus there is inherently a plurality of second channel identifiers. Antecedent basis is found in the requirement of a plurality of such devices at line 3 of claim 15. With respect to the distinction between initial, first, and second channel identifiers, applicant notes that the

initial channel identifier is also the first channel identifier for the device that receives it. Each device modifies its associated first channel identifier to create a second channel identifier which becomes the first channel identifier for the next device in the sequence. Claim 15 was amended to more explicitly clarify the relationship between initial, first, and second channel identifiers.

Applicant respectfully submits that the 35 U.S.C. § 112 rejections have been overcome.

Response to 35 U.S.C. § 102 rejections

Claims 1, 2, 4-12, and 14-20 were rejected as being anticipated by Cote. Claims 1, 2, 4-12, and 14-20 were rejected as being anticipated by Adams. Claims 9, 10, and 12 were rejected as being anticipated by Yokoyama.

Cote discloses a token-ring communication architecture. The token ring is a physical star and an electrical ring. A single token packet circulates continuously around the ring. Access to the media is allowed only when a station receives a "free" token. The station modifies the token to mark it as being "in use". The station claiming the token then appends additional information to the token before communicating it to the next station in the ring. The additional information includes the data to be transmitted and a destination address. Each station on a token ring network acts as a repeater, receiving bits from one station and passing them on to the next. If a station recognizes that it is the destination of the signal, it copies the bits to memory and alters the regenerated/final bit stream to acknowledge that the signal was received. (Cote, p. 2, 5)(see also, Coulouris, p. 1).

Applicant notes that the token is modified only by one station that is sending data and another station that is the intended recipient of the data. Of particular note, *the token is not being modified by each successive station in the ring.* Furthermore, the source station modifies only a "token bit" of the token in order to claim the token. Although the source station appends (but doesn't modify) information including access control, frame control, destination address, source address, data, and a frame check sequence, *the destination station modifies only the frame status field* to indicate that the data was received (the destination station also removes the information appended to the token by the source station). (Cote, p. 5-6). *Thus the source and destination stations do not modify the same fields.*

In summary, the fields that are modified by both the source and destination stations are not address fields or any other field analogous to a channel identifier. The stations of the ring other than the source or the destination merely repeat the bit stream received from either the source or destination stations without modification.

Adams similarly discloses a ring communication system utilizing slots rather than a single token for communication. Unlike Cote, the number of slots/blocks (i.e., amount of data) that can be used at any given time is limited to ensure that no one station can monopolize the network. Once the threshold d allocation of blocks has been reached the transmitting station is inhibited from further transmission until reset by an available slot/block that has circulated at least once around the ring. Such a reset occurs upon the detection of the manipulation of certain control bits of the empty block (inhibited stations may set/reset control bits of an empty block in an attempt to request the block if it is

not needed by another active station). Applicant notes, the control bits are not address bits nor does each successive station in the ring modify the said control bits. As with Cote, applicant submits that successive stations between a source and a destination station do not each modify an address field or other field analogous to a channel identifier. (Adams, col. 1, lines 20 - col. 3, line 16)

Applicant respectfully submits that neither Cote nor Adams teaches or suggests: *a plurality of daisy-chained devices wherein each device modifies the received channel identifier within the received command sequence to generate a modified command sequence having a modified channel identifier for transmission to a next device of the daisy chain, wherein the modified command sequence is the received command sequence for that next device of the daisy chain.*

In contrast claim 1, includes the language:

> 1. A method comprising the steps of:
> a. *coupling a plurality of devices in a daisy chain, wherein each device performs the steps of:*
> i) receiving a received command sequence including a received channel identifier;
> ii) executing the received command sequence if the received channel identifier matches a pre-determined value, wherein the pre-determined value is the same for each of the plurality of daisy-chained devices; and
> iii) *modifying the received channel identifier within the received command sequence to generate a modified command sequence having a modified channel identifier for transmission to a next device of the daisy chain, wherein the modified command sequence is the received command sequence for that next device of the daisy chain.*

(Claim 1, as amended)(*emphasis added*).

Thus applicant respectfully submits claim 1 is not anticipated by the cited reference.

Similar arguments may be made with respect to claim 15. In particular, neither Adams nor Cote teaches that *each serial device modifies* its received first channel identifier to generate a second channel identifier and that when coupled in a daisy chain mode, *the second channel identifier provided by any selected serial device is received as the first channel identifier by the next serial device of the daisy chain.*

In contrast, claim 15 includes the language:

> 15. An apparatus comprising:
> a bus master providing an initial command sequence having an initial channel identifier;
> *a plurality of serial devices, each device comprising:*
> a serial input port for receiving a first command sequence having a first channel identifier and a remaining command sequence;
> a daisy chain output port; and
> *command sequence processing logic for modifying the first channel identifier to form a second channel identifier, wherein the command sequence processing logic provides the second channel identifier and the remaining command sequence to the daisy chain output port; and*
> command execution logic, wherein the command execution logic executes the remaining command sequence if the first channel identifier matches a pre-determined value shared by the plurality of serial devices;
> a bus selectively coupling the serial devices in one of a non-daisy-chain normal configuration and a daisy chain configuration, wherein the initial channel identifier is the first channel identifier for the device receiving the initial command sequence, *wherein when coupled in the daisy chain configuration the second channel identifier provided by any selected serial device is received as the first channel identifier by the next serial device of the daisy chain,* wherein when coupled in a non-daisy-chain configuration each of the devices receives a same first command sequence.

(Claim 15, as amended)(*emphasis added*).

Thus applicant respectfully submits claim 15 is not anticipated by the cited references.

With respect to claim 9, applicant submits Yokoyama includes a disclosure of controlling a plurality of serially connected electronic apparatuses without

increasing the number of signal lines. A cascade connection command is issued to a plurality of electronic device (e.g., cameras) serially connected to a host PC. The cascade connection command is used to assign a camera ID to each camera and to recognize the set camera IDs by the host PC (Yokoyama, paragraphs 21, 25).

Each camera is assigned an ID one (1) greater than that of its predecessor (another camera or the host PC). The ID is stored in the device buffer memory (Yokoyama, paragraph 27). Each camera sends an ACK command to its predecessor. If a particular camera is the last stage of the serially-connected devices, such information is added to the status information and an ACK command is output to the host PC (Yokoyama, paragraph 31). (see also, Yokoyama, Figs. 3-5, paragraphs 36-40).

Applicant respectfully submits that although Yokoyama modifies a received ID number and provides it as a modified ID number to the next device in a plurality of daisy-chained cameras, this is performed initially to *assign a unique device ID number* to each camera. During configuration, Yokoyama's "ID number" is merely data is not being used as an address or ID number. Each camera must retain its assigned ID number for comparison with the ID number provided by the host PC in a subsequent command to determine whether to execute a subsequently issued command.

When performing the cascade connection command, Yokoyama's cameras are being assigned an ID number and each camera modifies its received ID number which is then cascaded to the next camera to ensure a unique ID number. *However, there is no ID number comparison used to determine whether to*

execute the cascade connection command. Each device must execute the command in order to be assigned an ID number. Thus during the cascade connection command, all devices perform the command in order to be assigned an address. There is no comparison with that address to determine whether to execute the cascade connection command. *For all other commands, the cameras do not modify their received or provided ID number.* They compare an unmodified ID number in a received command with their respective assigned ID numbers. In addition, these assigned ID numbers are unique to each camera such that the cameras do not use the same pre-determined value for comparison before executing the command.

The Examiner has previously cited Yokoyama paragraphs 44-45 as support for the proposition that each of the plurality of devices uses the same pre-determined value for comparison (11/24/2004 Final Office Action, p. 3). Paragraphs 44-45 clearly indicate that each camera is using a different ID number to compare with the received control command (i.e., one uses "01", the other uses "02"). Applicant does note that a special ID number may be used ("00") to force all cameras to execute the command. (Yokoyama, paragraph 49). In either of these cases, however, the destination ID number passes unmodified through the cameras.

Thus a cascade connection command is the only command during which Yokoyama's destination ID number is modified and cascaded to subsequent cameras. The destination ID number, however, is not an address to identify which camera should execute the command during a cascade connection. The cameras, apparently perform no ID number comparison with said destination ID

number during a cascade connection command because this is how the ID numbers are assigned. Accordingly every device must perform the cascade connection command without regard to the value of the ID number it receives.

For all other commands (i.e., non-cascade connection commands), Yokoyama seems to teach comparison with both the assigned ID number as well as a pre-determined value "00" to determine whether the receiving device should execute the non-cascade connection command. (Yokoyama, paragraphs 43-50) In each of these cases ("00", non-"00") the cameras do not modify the ID number received or provided to another camera.

Applicant therefore respectfully submits that Yokoyama does not teach or suggest an apparatus comprising a plurality of serial devices, wherein each serial device comprises *a) command sequence processing logic for modifying the first channel identifier to form a second channel identifier, wherein the command sequence processing logic provides the second channel identifier and the remaining command sequence to the daisy chain output port; AND b) command execution logic for executing the remaining command sequence if the first channel identifier matches a pre-determined value, wherein each of the plurality of serial devices uses the same pre-determined value.*

In contrast, claim 9 includes the language:

> 9. *An apparatus comprising a plurality of serial devices, wherein each serial device comprises:*
>
> a serial input port for receiving a first command sequence having a first channel identifier and a remaining command sequence;
>
> a daisy chain output port;
>
> *command sequence processing logic for modifying the first channel identifier to form a second channel identifier, wherein the command sequence processing logic provides the second channel identifier and the remaining command sequence to the daisy chain output port;* and

command execution logic for executing the remaining command sequence if the first channel identifier matches a pre-determined value, wherein each of the plurality of serial devices uses the same pre-determined value.

(Claim 9, as amended)(*emphasis added*).

Thus applicant submits claim 9 is not anticipated by the cited reference.

In view of the arguments presented above, applicant re-iterates that claims 1, 9, and 15 are not anticipated by the cited reference. Given that claims 2-8 depend from claim 1; claims 10-12, and 14 depend from claim 9; and claims 16-17 and 19-20 depend from claim 15; applicant submits claims 2-8, 10-12, 14, 16-17 and 19-20 are likewise not anticipated by the cited reference.

Applicant respectfully submits that the rejections under 35 U.S.C. § 102 have been overcome.

Response to 35 U.S.C § 103 rejections

Claim 11 was rejected as being unpatentable over Yokoyama. Claims 15-20 were rejected as being unpatentable over Yokoyama in combination with APA.

With respect to claim 11, applicant submits claim 9 is patentable over Yokoyama for the same reasons stated above with respect to the 35 U.S.C. § 102 rejections. Given that claim 11 depends from claim 9, applicant submits claim 11 is likewise patentable over Yokoyama.

With respect to claims 15-20, applicant notes that claim 15 was re-written in part to include the language of now canceled claim 18. Thus the arguments presented above with respect to overcoming the 35 U.S.C. § 102 rejections of claim 9 similarly apply. In particular, neither Yokoyama nor the APA alone or

combined teaches or suggests *a) command sequence processing logic for modifying the first channel identifier to form a second channel identifier, wherein the command sequence processing logic provides the second channel identifier and the remaining command sequence to the daisy chain output port; AND b) command execution logic for executing the remaining command sequence if the first channel identifier matches a pre-determined value, wherein each of the plurality of serial devices uses the same pre-determined value.*

In contrast, amended claim 15 includes the language:

15. An apparatus comprising:
a bus master providing an initial command sequence having an initial channel identifier;
a plurality of serial devices, each device comprising:
a serial input port for receiving a first command sequence having a first channel identifier and a remaining command sequence;
a daisy chain output port; and
command sequence processing logic for modifying the first channel identifier to form a second channel identifier, wherein the command sequence processing logic provides the second channel identifier and the remaining command sequence to the daisy chain output port; and
command execution logic, wherein the command execution logic executes the remaining command sequence if the first channel identifier matches a pre-determined value shared by the plurality of serial devices;
a bus selectively coupling the serial devices in one of a non-daisy-chain normal configuration and a daisy chain configuration, wherein the initial channel identifier is the first channel identifier for the device receiving the initial command sequence, *wherein when coupled in the daisy chain configuration the second channel identifier provided by any selected serial device is received as the first channel identifier by the next serial device of the daisy chain*, wherein when coupled in a non-daisy-chain configuration each of the devices receives a same first command sequence.

(Claim 15, as amended)(*emphasis added*).

Thus applicant submits claim 15 is patentable under 35 U.S.C. § 103 in view of the cited references.

Given that claims 16-17 and 19-20 depend from claim 15, applicant submits claims 16-20 are likewise patentable under 35 U.S.C. § 103 in view of the cited references.

Applicant respectfully submits that the rejections under 35 U.S.C. § 103 have been overcome.

Conclusion

In view of the amendments and arguments presented above, applicant respectfully submits the applicable rejections and objections have been overcome. Accordingly, claims 1, 2, 4-12, 14-17, and 19-20 as amended should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at (512) 858-9910.

Respectfully submitted,

Date February 24, 2005 William D. Davis

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